PhD Program between the Freie Universität Berlin (FUB) and the China Scholarship Council (CSC)

Open PhD Position at Freie Universität Berlin, offered only to Chinese CSC scholarship candidates 2020

Please Note: this PhD position is only offered to Chinese PhD candidates for the application in the framework of the FUB-CSC PhD Program.

Department/Institute: Department of Physics/Institute of Experimental Physics
Subject area: Solid State Physics/Magnetism
Name of Supervisor: Prof. Wolfgang Kuch
Number of open PhD positions: 1
Type of the PhD Study: Full Time
Project title: Antiferromagnetic materials for spintronics

PhD Project description:

In a future spinelectronics, or spintronics, the spin of electrons is used for information transport and processing instead of the charge, as in conventional electronics. Expected advantages are smaller integration, less power consumption, and higher operating speed. Recently antiferromagnetic materials have moved into the center of interest. Antiferromagnets are less susceptible to external magnetic fields, can be operated at higher frequencies, and there is a larger number of semiconducting or insulating antiferromagnetic materials compared to ferromagnetic ones. The challenges lie in the experimental determination of the antiferromagnetic spin structure, since the magnetic moments cancel out on the lengthscale of atomic distances. In the PhD project spintronic systems containing antiferromagnetic materials will be created and their properties characterized by standard surface science techniques and soft-x-ray spectroscopies, including time-resolved measurements using synchrotron radiation at BESSY II in Berlin. The goal is to develop materials based on antiferromagnetic spin structures that can be used to store or process information.

Language requirements:
IELTS: 6,5 oder TOEFL: 95 ibt

Academic requirements:
Master in physics or related with a master thesis in experimental physics.
**Information of the professor or research group leader (website, awards etc.):**

https://www.physik.fu-berlin.de/einrichtungen/ag/ag-kuch/research

**Please Note:** In a first step, the complete application should be submitted to csc@international.fu-berlin.de for evaluation by January 4th, 2020. Please do not contact the professor before. He/she will get in contact with you after having received the complete application via the International Office of Freie Universität Berlin in January.